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## The Manufacturing Engineering Society International Conference, MESIC 2013

### Preface

Manufacturing Engineering is experiencing a great transformation due to unexpected challenges arising from the current approach to optimization and continuous performance improvement in manufacturing processes, production of large products, miniaturization, development of new materials, manufacturing bioengineering oriented, etc. Recently, engineers and scientists have begun to explore new approaches to manufacture highly complex products based, for example, on additive manufacturing. Moreover, these optimized and emerging processes are aimed at improving the product quality and process performance.

The Manufacturing Engineering Society International Conference is conducted every two years fulfilling one of the most important objectives of the Manufacturing Engineering Society: creating forums for exchanging experiences in this field of knowledge.

The 5th edition of the congress has been held in the Paraninfo Building at the University of Zaragoza, Spain, from 26<sup>th</sup> to 28<sup>th</sup> June 2013. Its main objective is to offer a meeting point for professionals, researchers and educators from industry, research centers and academia to present and discuss recent advances in the field of Manufacturing Engineering.

Papers relevant to the scope of MESIC include the following areas:

- Moulding processes
- Forming processes
- Machining processes
- Non-traditional manufacturing processes
- Welding and joining technologies
- Industrial metrology
- Manufacturing systems
- CAD/CAM/CAE/CIM. Automation of production
- Modeling and simulation in manufacturing engineering
- Production planning
- Rapid prototyping and additive manufacturing
- Integrated development of products and processes
- Industrial quality and quality management
- Teaching and learning in manufacturing engineering

Contributions have been received from many European countries like England, Germany, France and Italy and also from the United States and other countries from the five continents.

The international component of the conference has been also reinforced by five plenary lectures given by international speakers who are recognized authorities in their fields:

The opening lecture: "Data Fusion for In-Process Quality Improvement" by Professor Shi from the Georgia Institute of Technology in Atlanta. United States.

The first invited lecture: "From Just in Time to Seru, for a production as lean as possible" by Professor Villa from the Politecnico di Torino. Italy.

The second one: "Function-oriented Measurements – The Path from Macro- to Micro- to Nanometre Range" by Professor Weckenmann from the Erlangen-Nuremberg University. Germany.

The third one: "Machine tool dynamics - advances in metrological investigation, modeling and simulation techniques, optimization of process stability" by Professor Brecher from the Aachen University. Germany.

And the forth invited lecture: "Looking at the future of manufacturing metrology: The VDI/VDE roadmap manufacturing metrology 2020" by Dr. Imkamp from Carl Zeiss in Oberkochen. Germany.

Oral communications have been presented in English or Spanish and, to facilitate understanding between Spanish and foreign delegates, this conference had simultaneous translation English-Spanish-English.

Oral presentations have been organized in 13 sessions, with a total of 80 communications organized by subject area. Oral presentations have been fast, ten minutes with five more to questions from the audience, to promote discussion.

There were also sessions for contributions in poster format, among which three awards have been given to the best posters presented at the conference. The awarded works were selected by voting of all attendees.

Juan José Aguilar Martín  
Chairman of the MESIC 2013

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